AKG-37-0000
Response to Comments

Mechanical Placer Mining
General Permit

U.S. EPA, Region 10
August 2000

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Introduction

EPA received comments on the reissuance of the National Pollutant Discharge Elimination System (NPDES) General Permit for Alaskan Mechanical Placer Miners AKG-37-0000 from the Alaska Miners Association (AMA), Southeast Alaska Conservation Council, Center for Science in Public Participation, American Rivers, Bristol Bay Coastal Resource Service Area and National Marine Fisheries Service (NMFS).

A Public Hearing was held in Anchorage on February 29, 2000. EPA received oral comments from Steve Herschbach and Ben Maresh. A Public Hearing was also held in Fairbanks on March 7, 2000. EPA received oral comments from Tom Bundtzen, Pete Hagglund, James Foley, Marcia Foley, Steve Borell for AMA, Ken Pohle, Dave Eberhardt, Forest Hayden, Jesse Atencio, Pat Scofield, Jamie Cox, Roger Burggraf, and Donald Stein. A copy of each transcript is part of the administrative record for the general permit.

EPA received a letter, dated December 13, 1999, from the NMFS regarding endangered species in the project area. The letter states that NMFS would not expect any species for which NMFS is responsible to be found in the freshwater systems covered by the general permit.

On June 14, 2000, the Alaska Division of Governmental Coordination (ADGC) issued its Proposed Consistency Determination. The Final Consistency Determination, issued on June 23, 2000, agreed with EPA's determination that the permit is consistent with the Alaska Coastal Management Program (ACMP).

On June 30, 2000, the Alaska Department of Environmental Conservation (ADEC) issued a Certificate of Reasonable Assurance for proposed discharges from Alaskan Mechanical Placer Mines.

State Actions

1. **Comment:** A commentor suggests a change to turbidity level in Permit Part II.B.4.b. noting that the WQS for turbidity are expressed in terms of "above natural conditions."

   Response: The requirement was included based on the 401 Certification of the previous draft permit. Unless the State certifies a different requirement in this general permit, EPA will retain this requirement.

2. **Comment:** A commentor is concerned that ADEC waived its right to certify all general permit in July of 1999. With this waiver, the commentor says EPA is responsible for ensuring that the operations covered

under the general permit comply with the WQS including the anti-degradation policy.

Response: While ADEC did send a letter to EPA in July 1999 that was a general waiver of all NPDES permits, it was decided in workgroup meetings throughout last year that general permits were an important issue and that ADEC needed to certify these permits. ADEC certified the general permit on June 30, 2000.

3. **Comment:** A commentor says that EPA must determine whether placer and suction dredge mining projects meet the federal antidegradation policy found in 40 CFR 131.12(1), which states "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Both the federal and state antidegradation policies contain provisions that require making determinations based on site-specific analysis before authorizing any activity that may lower water quality and that these analyses cannot be achieved under a general permit.

Response: The antidegradation policy is a component of a State's Water Quality Standards. The requirement of 40 CFR 131.12(a) states that "[t]he State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following . . ."

The antidegradation policy is a required element of a State's WQS and is not a federal requirement. The NPDES program requires that a permit contain the applicable State WQS and the State must certify that the permit meets WQS before it can be issued.

4. **Comment:** A commentor says that EPA must also ensure that the general permits comply with the requirements of the ACMP.

Response: EPA submitted a Coastal Zone Consistency Determination to ADGC on January 7, 2000. ADGC agreed with the EPA determination on June 23, 2000.

5. **Comment:** A commentor recommends that EPA include as a condition of the permit, a provision giving the state and public adequate notice and opportunity to review specific projects under the antidegradation policy and the ACMP.

Response: EPA has no desire to complicate this permit issuance with conditions that generally occur outside of the permit. A project proposed for the coastal zone generally goes through a

consistency review for the other permits required to mine in the state of Alaska. If ADEC proposes anything less stringent than 5 NTUs above background for turbidity, a public notice of this determination is required.

6. **Comment:** A commentor strongly opposes the procedure that would allow for modified turbidity limits as high as 1500 NTUs.

Response: A turbidity modification as high as 1500 NTUs would only be proposed if the receiving water had sufficient flows, even during its summer low flow period, to assimilate a turbidity level such as this. The proposed limit would also undergo a public process so a reviewer could study the basis for the proposed limit and comment as to the specifics of a proposed limit.

Coverage Area

7. **Comment:** Along with the prohibitions on activities in National Parks System Units, National Monuments, Sanctuaries, Wildlife Refuges, Conservation Areas, Wilderness Areas, Critical Habitat Areas or water adjacent to the boundaries designated as wild under the Wild & Scenic Rivers Act, a commentor suggests additional prohibitions:

a. any State Park, State Refuge, Preserves, Sanctuaries or Recreation Areas,

b. any National Historic or Natural Landmark,

c. any congressionally designated Land Use Designation (LUD) II areas which are to be manage in a roadless state to retain their wildland character,

d. any waters adjacent to the boundaries of rivers recommended for designation as Wild & Scenic Rivers under the modified 1997 Tongass Land Management Plan (1999),

e. within one nautical mile of any major Stellar sea lion haulout or rookery site or within any Stellar sea lion “Critical Habitat Area” defined in 58 FR 45269 without written permission from the Regional Director of the National Marine Fisheries Service and

f. any “Areas Which Merit Special Attention” (AMSA) or areas otherwise designated for their historic, prehistoric and archaeological resources or recreation or subsistence values

under Alaska Coastal Management Plan (ACMP).

Response: EPA proposed a general permit to allow for the regulation of a vast number of similar discharges through one action rather than going through the administrative and financial burden of permitting each facility individually. Some areas have been excluded from coverage under the general permit but if the applicability of the GP is too limited, it will not have the desired affect of reducing the Agency's administrative burdens. EPA has considered this comment by section and will respond to each section.

a. Gold mining is not allowed in State Parks, however some Parks allow gold panning. The only state Preserve is the Bald Eagle Preserve and it is a State Park as are all Recreation Areas. The exclusion section says that if an operator would like to mine in any of the areas, an individual permit is necessary. This is misleading because no mining is allowed in State Parks, even with a permit from EPA. Because of this, these areas have been removed from Permit Part I.E.2.c.(1).

   As for other State legislatively designated special areas, some are closed to mineral entry and if a project is proposed for open areas, it undergoes an individual project review. If a state land management agency does not feel that the general permit is adequate to control the discharge from any facility that may be considered, it has the opportunity to request that the Director deny general permit coverage for the facility under Permit Part I.E.2. The public may petition the Director to require an individual permit for a facility under 40 CFR § 122.28(b)(3).

b. If a facility is proposed for a National Historic or Natural Landmark and the land management agency believes that the general permit is inadequate to control the discharge from the facility, there is an opportunity to petition the Director to require an individual permit for the facility. These two designations have been added to Permit Part I.E.2.c.(1).

c. If a facility is proposed for a LUD II and the land management agency believes that the general permit is inadequate to control the discharge from the facility, there is an opportunity to petition the Director to require an individual permit for the facility. This designation has been added to Permit Part I.E.2.c.(1).

d. Since there is no guarantee that the waters recommended for special designation will be designated, EPA believes that

it is premature to exclude the use of the general permit. If these waters are designated under the Wild & Scenic Rivers Act, then the permit would not cover any facility located in the wild portion of the designated areas.

e. Since this general permit only covers discharges to freshwater, EPA does not believe that a buffer for protection of a marine mammal is necessary.

f. Under the ACMP review of this general permit, no coastal districts that have created AMSAs or contain other designated areas have requested an exclusion from coverage under the general permit. If a coastal district had expressed this concern, EPA would have considered an exclusion.

General Permits

8. **Comment:** A commentor supports strong permit conditions that maintain the ecological health of Southeast Alaska's streams and rivers and while the commentor understands that general permits in some ways reduce the administrative burden on regulatory agencies, the commentor states that general permits often fail to adequately address site-specific conditions, unforeseen future adverse impact to water resources and the unique environmental and cultural conditions in Southeast Alaska.

Response: This general permit is flexible enough to address site-specific conditions. ADEC can authorized a mixing zone for turbidity or authorize site-specific criteria for arsenic. The public would have the opportunity to comment on these authorizations prior to implementation. Only after ADEC has certified a new limit will EPA include it in a permit. Another site-specific mechanism available for the arsenic limit is found in Permit Part II.B.6.b. which allows an affected party to petition the State for a different permit limit for arsenic. EPA observes that it would be difficult for even an individual permit to prevent "unforeseen future adverse impacts" to any resource whether they be environmental or cultural.

Notification Requirements

9. **Comment:** A commentor suggests that in Permit Part I.F.1. *"must"* be changed to *"should"* to allow flexibility that is typically being exercised by EPA while being absolutely accurate from a legal

standpoint.

Response: It is a requirement that owners or operators of a facility submit a Notice of Intent (NOI) to be covered by this general permit. Since this is a requirement and not an option, EPA will maintain the use of "must" in the permit. If an NOI is submitted after a designated date, EPA can use its discretion to account for the concerns expressed by the commentor.

10. **Comment:** A commentor suggests that Permit Part I.F.1.a. be changed from "by January 1 of the year of discharge from a new facility or a facility established since 1988 subject to New Source Performance Standards (NSPS) that has not previously been covered by a permit"

to

"by January 1 of the year of discharge to allow time for completion of the NEPA evaluation from a new facility or facility established since 1988 which would be subject to New Source Performance Standards (NSPS) that has not previously been covered by a permit. Notifications received after January 1 will likely not be processed until the next year"

Response: This change has been made to the final permit.

11. **Comment:** A commentor recommends dropping the requirement in Permit Part I.F.1.b. and to automatically roll over all operations that have 1994 GP coverage. In the alternative, the commentor recommends having new NOIs due before discharging instead of by a specific date.

Response: The provision requiring a new NOI from each facility after the effective date of the general permit has been retained. This will allow EPA to obtain current information and avoid the confusion of whether permit coverage rolled over. About 28% of permittees covered under the previous permit did not reapply to obtain an administrative extension. It will also serve as a reminder that new mixing zones need to be authorized by ADEC. The mixing zones authorized in the previous permit do not roll over to this new permit. The date of November 30, 2000, has been replaced by the clause "within 120 days of the effective date of this permit." Facilities that miss this deadline could be considered recommencing facilities under Permit Part I.F.1.c.

12. **Comment:** A commentor recommends changing Permit Part I.F.1.c. from 90 days to 60 days.

Response: EPA has changed this permit part as well as Permit Part I.F.1.d.

13. **Comment:** A commentor recommends that Permit Part I.F.2. be changed to comport with the suggested language for Permit Part I.F.1.b.

"Any facility covered under the 1994 general permit retains coverage under this general permit without notification of EPA."

or if Permit Part I.F.1.b. is retained

"Any facility covered under the 1994 general permit retains coverage under this general permit if notification is given in accordance with F.1.b. above."

Response: EPA has adopted the latter suggestion into the general permit with another change. The term "coverage" has been used contrary to Permit Part I.F.1. A group of facilities is authorized by a general permit while an NOI is required for an individual facility to be covered by the general permit. Any facility covered by the previous general permit will be retained in the group authorized by the new general permit and can gain new coverage by submitting an NOI.

Best Management Practices (BMPs)

14. **Comment:** A commentor states that the reference to an "apparent" discharge in Permit Part II.D.7 is problematic. The question becomes "Apparent when?" This morning? Last week? This decade? During the gold rush of 1886 or 1899? The following is recommended language:

"~~During each mining season,~~ a permittee may not discharge into the receiving water within ~~three hundred feet of any other upstream or downstream placer mining operation which is discharging or from which it is apparent that a discharge has occurred. Nor may a permittee discharge at a point within three hundred feet of~~ the downstream edge of a mixing zone granted for any other upstream placer mining operation."

Response: The response to comments for the 1996 modified general permit addressed this issue. The provision relies on the visual observation by the permittee. The following redlined language has been included in this permit part:

During each mining season, a permittee may not discharge into the receiving water within three hundred feet of any other

upstream or downstream placer mining operation which is discharging or from which it is visually apparent by the permittee that a discharge has occurred. Nor may a permittee discharge at a point within three hundred feet of the downstream edge of a mixing zone granted for any other upstream placer mining operation

15. **Comment:** A commentor requests that the first seven words of Permit Part II.D.3 ("Measures shall be taken to assure that") be removed to make the paragraph stronger.

Response: This language was taken directly from 40 CFR 440.148(c) which contains the Best Management Practices applicable to the Gold Placer Mine Subcategory.

16. **Comment:** A commentor asks that the phrase "take all reasonable steps" be taken out of Permit Part IV.D. Duty to Mitigate.

Response: This permit requirement must be included in all NPDES permits according to 40 CFR 122.41 and can be found in the regulations at 40 CFR 122.41(d).

17. **Comment:** A commentor suggests that BMPs be included so some portion of the natural riparian area be left undisturbed and that no in-water work be performed during smolt emergence, juvenile salmon out-migration and adult salmon return.

Response: This general permit only authorizes the discharge to waters of the United States. It does not authorize any work to be conducted in-stream or on stream banks.

Limitations & Monitoring

18. **Comment:** A commentor suggests that the format for turbidity monitoring in Permit Part II.A.4. be changed to match the format in Permit Part II.B.3. This would remove the reference to "one set per discharge event."

Response: This change has been made in the final permit.

19. **Comment:** A commentor recommends that the monitoring frequency for Turbidity in Permit Part II.A.4. be changed to once per week in which a discharge occurs.

Response: EPA has required sampling during a discharge event because it is important to determine the quality of the discharge from a facility

operating under a storm exemption. A facility that is a "no discharge" facility should have rare instances of discharge.

20. **Comment:** A commentor recommends that the monitoring frequency for arsenic in Permit Part II.A.4. be changed from once per discharge event to once per season.

Response: See Response to Comment 19.

21. **Comment:** A commentor states that the turbidity monitoring frequency found in Permit Part II.B. is unrealistic and excessive. The commentor recommends changing the frequency from three times per week to once per month if there is a discharge or, in the alternative, to once per week if there is a discharge. The commentor notes that even the latter proposal is a 400% increase over the current requirements and that the testing would require that the miner purchase a turbidity meter and more than likely two meters to ensure that one is always working. The added cost for the meters would be several thousand dollars per year with no appreciable benefit for the environment.

Response: Based on the results of the EPA Metals Study, EPA developed two monitoring alternatives. First, EPA considered keeping the monitoring requirements of the previous general permit and adding metals monitoring at least twice a year. The data gathered during this permitting cycle would have been used to develop metals limits to include in individual permits for those facilities showing the need for such limits.

The second alternative was based on the finding that if turbidity limits were not exceeded, metals criteria were not violated either. The only time this premise did not hold true was when the background levels of metals in the stream already exceeded the criteria. EPA concluded that turbidity acts as a surrogate for metals and if turbidity is kept below the permit limit, metals levels would not violate water quality standards. Turbidity requirements would provide an immediate control of the effluent that a monitoring permit would not.

EPA has determined that the requirement of monthly monitoring for turbidity is not often enough to track the possible fluctuations of an effluent over time, nor is it believed that weekly monitoring would be sufficient. EPA believes that monitoring turbidity three times per week plus visual monitoring of the effluent on a daily basis is adequate to protect the waters of the United States. This frequency will remain a permit condition.

Appendix A of this Response to Comments addresses the cost issue of three sampling alternatives. The first alternative considers the cost of sampling under the previous permit. The second alternative considers the cost of sampling which includes metals sampling as suggested in Comments 23 and 24. The third alternative considers the cost of sampling recommended in the proposed general permit. Over the five year life of the permit, the recommended alternative is the least costly, even if an operator purchased two turbidimeters.

EPA also believes that because the turbidity monitoring could be done during the settleable solids analysis, it is not unduly burdensome. A settleable solids analysis requires that an Imhoff cone be filled to a certain level with a sample of effluent. The sample is required to sit for 45 minutes, then the sample is stirred and allowed to sit an additional 15 minutes before a reading is taken. EPA sees no reason why an operator could not analyze the turbidity during this timeframe.

22. **Comment:** A commentor notes that the *Alaska Placer Mining Metals Study - Year Two* indicates that significant quantities of metals are often discharged as a result of placer mining operations and that many of the metals exceed the WQS. Metals discharged from placer operations could be harmful to aquatic organisms. This commentor supports maintaining the previous general permit condition that requires monitoring the first three discharges and monthly metals samples thereafter.

Response: The previous general permit only provided metals sampling for arsenic. EPA has proposed no other metals sampling because the results of the EPA Metals Study show that if turbidity levels are controlled, the metals levels are generally below WQS. The exception to this is when the receiving waters already contain naturally occurring metals levels above the WQS.

23. **Comment:** A commentor suggests that since turbidity monitoring is being used as a surrogate for metals that daily turbidity sampling be required.

Response: See response to comment 21.

24. **Comment:** A commentor claims that in order to determine whether there are exceedances of WQS in the discharges from placer operation, EPA should require that a sample for a full suite of metals should be taken once a month during the operation of the placer mine.

Response: See Response to comment 21.

25. **Comment:** A commentor notes that the requirement found in Permit Part II.C.2. to take the discharge and upstream samples "within a reasonable time" is vague wording and asks that it be more precise.

Response: Although the language is not precise, it is necessary to be flexible because the distance and terrain that needs to be covered between the discharge point and a point representing natural conditions may vary widely between facilities.

Water Quality Standards (WQS)

26. **Comment:** A commentor notes that the reference to 18 AAC 70.032 from the Alaska Water Quality Standards (WQS) in Permit Part II.B.4. should be 18 AAC 70.255.

Response: The first reference discusses a request for a turbidity modification and should actually be 18 AAC 70.260 Mixing Zones: Application Requirements. The second refers to the mixing zone requirements and should be 18 AAC 250 Mixing Zones: General Conditions and 18 AAC 255 Mixing Zones: In-Zone Quality and Size Specifications.

27. **Comment:** A commentor notes that the reference to 18 AAC 70.032(d)(3)(D)(ii) from the WQS in Permit Part II.B.4.d. should be 18 AAC 70.255(h)(2). This comment includes a suggestion to add the verbiage of the regulation so that if the WQS changed, the new requirement would not apply immediately.

Response: Based on this comment, the language from 18 AAC 70.255(h)(2) has been incorporated into the final permit.

Miscellaneous

28. **Comment:** A commentor requests that hydraulicking operations not be covered by the general permit. The commentor suggests EPA should review each hydraulicking application on a site-by-site basis to ensure that the operator takes appropriate measures to prevent water pollution and fully complies with WQS.

Response: EPA has only included hydraulicking operations that are designed, operated and maintained to hold a certain capacity of water but might have a discharge in the case of an excessive storm event. In this case, a facility would be covered by a storm exemption.

Discharging facilities are still required to undergo the individual permitting process.

29. **Comment:** A commentor is concerned that a 300 foot separation distance between mechanical operation discharges is not enough.

Response: The 300 foot separation zone is intended to ensure that there are areas of the receiving water where water quality standards are being met and where sediments are unimpacted. EPA believes that the 300 foot zone adequately ensures that cumulative impacts will not be detrimental to the receiving waters.

30. **Comment:** A commentor stated that the following comment should address mechanical placer mining operations:

A commentor states that in all operations in the EPA Suction Dredge study, in no case did the plume and dredge pile exceed 10% of the width of the river. A concern of the commentor is allowing suction dredging in smaller streams where the dredge pile could extend across the entire channel which would have a much greater impact on the ecosystem and could easily impede movements of fish and other organisms. The commentor suggests that some standard be set in the permit for maximum plume and dredge pile width relative to the total river/stream width. The commentor says the maximum plume and dredge pile width should be required to be less than or equal to ten percent of the wetted width of the river or stream.

Response: In mechanical placer mining operations, EPA does not allow mining activity in the receiving water therefore no piles should be found there. If a modified turbidity limit is proposed, the width of the turbidity plume is already limited in Permit Part II.B.4.b.:

"the modified turbidity limit does not cause turbidity levels to exceed 100 NTUs in more than one-half of the cross-sectional area of resident and anadromous fish migration corridors."

Appendix A

Cost of Sampling and Analysis

PREVIOUS PERMIT

The previous general permit required that the permittee sample the first 2 discharges for turbidity and monthly thereafter as well as the first 3 discharges for arsenic then monthly thereafter. For turbidity, 2 samples need to be taken each time. Assuming a 3 month season and the first discharges took place during the first month, the cost would be:

Turbidity: 4($15) + 4($15) = $120 (the first 2 sets then a set for each month)
Arsenic: 5($20) + 3($28) + 2($28) = $480 ($20 is a sample prep fee)

Shipping costs not included

Total = $600/yr. **5 year permit = $3000**

METALS SAMPLING

To sample for the same group of metals that EPA sampled in the metals study as well as the metals required to calculate hardness, the analysis would need to be split between three methods, EPA Method 200.7, 200.9 and 245.1 (according to Northern Testing Labs in Fairbanks). Each sample would have only one sample preparation fee of $20.

EPA Method 200.7 for Al, Cu, Ca, Mg, Ni, Zn
$20 + 6($13) = $98
EPA Method 200.9 for As, Cd, Pb, Sb, Cr, Ag, Se
7($28) = $196
EPA Method 245.1 for Hg
$50
Turbidity (same as above)

Cost for one metals analysis = $344

A sample would have to be taken of the effluent and the background as well as continued sampling of turbidity and arsenic according to the previous permit. So the total cost of this sampling under the permit would be:

4($344) + 4(344) + 120 (4 metals sets, 4 turbidity sets)

Shipping costs not included

Total Cost = $2872/yr. **5 year permit = $14,360**

ADDITIONAL TURBIDITY SAMPLING

Sampling more frequently for turbidity would necessitate the purchase of a turbidimeter. This increases the up-front cost but since the holding time for a turbidity sample is only 48 hours the data would be more reliable and it alleviates the need for shipping samples to the lab. The newer model turbidimeters are relatively easy to calibrate and to operate. EPA purchased a turbidimeter in the Spring of 1999 for a cost of $645 which included the first year of calibration standards (need replacement each year at a cost of $40 each). Arsenic samples are assumed to be done on an annual basis.

Turbidimeter = $645
Arsenic = $20 + 28 = $48
After the first year calibration standards = $80

First year total = $693
Subsequent year total = $128 **Total for 5 year permit = $1205**

Shipping costs not included - but the holding time of a properly preserved arsenic sample is 6 months without refrigeration so the sample could be held until the end of the mining season and transported out at that time.